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Spectra of Southern Stars observed at the Melbourne Observatory with the McClean Direct-vision Spectroscope attached to the South Equatorial. Observer, P. Baracchi.

II.

(*Communicated by R. L. J. Ellery, F.R.S., Government Astronomer.*)

No.	Star's Name	α 1890·0.	N.P.D. 1890·0.	Description of Spectra and other Remarks.
		h m s	° ′	
1	ε Phenicis	0 3 49	136 21	Yellowish star. Spectrum with very fine dark lines, difficult to see.
2	ι Ceti	0 13 49	99 26	Yellowish star. Spectrum with extremely faint dark lines.
3	π Toucani	0 15 35	160 14	Whitish star. Faint spectrum. Dark lines about F suspected.
4	β Hydri	0 19 51	167 52	Yellowish star. Spectrum with fine dark lines.
5	κ Phenicis	0 20 48	134 18	Whitish star. Spectrum with dark lines about F and G thick and conspicuous. Dark line about C suspected. Violet colour not seen.
6	α Phenicis	0 20 50	132 54	Yellowish star. Spectrum with very fine dark lines, difficult to see.
7	β Toucani	0 26 29	153 34	White; double. Spectrum with dark lines about E, *b*, F, and G. G difficult. Violet hardly seen. E and *b* very faint. F thick and distinct.
8	Stone 194	0 27 43	153 38	White star. Spectrum with dark lines about F and G, thick and very distinct.
9	β Ceti	0 38 4	108 35	Spectrum with dark lines about C, E, *b*, F, G, and other very faint ones. Yellowish star.
10	β Phenicis	1 1 11	137 18	White star tending to yellow. Spectrum with dark lines about F and G, and others suspected. Violet not seen.
11	η Ceti	1 3 3	100 46	White star. Spectrum with dark lines at F and G well seen. G very broad and diffused. Dark lines about C, E, and *b* suspected. Blue colour preponderates.
12	ν Phenicis	1 10 13	136 7	Whitish star. Spectrum with a broad, nebulous, dark band about G. Dark lines suspected. F pretty well seen. No violet.
13	θ Ceti	1 18 31	98 45	Yellowish star. Spectrum with very faint dark lines suspected.

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No.	Star's Name.	α 1890·0.	N.P.D. 1890·0.	Description of Spectra and other Remarks.
		h m s	° ′	
14	γ Phenicis	1 23 36	133 53	Spectrum with several dark lines. One very thick and black in the red; one in the orange also thick and well defined; a fainter one in the yellow; one about F tolerably conspicuous; several very fine and faint in the blue.
15	δ Phenicis	1 26 40	139 39	White star tending to yellow. Spectrum with fine dark lines suspected.
16	α Eridani	1 33 37	147 48	White star. Spectrum with dark lines about C, F, G, and one in the violet. C only visible at the edges of the spectrum; the others very distinct and prominent.
17	τ Ceti	1 38 59	106 31	Yellowish star. Spectrum with dark lines suspected.
18	χ Eridani	1 51 37	142 9	Continuous spectrum.
19	α Hydræ	1 55 17	152 6	Spectrum with dark lines about F and G.
20	υ^4 Eridani	4 13 44	124 4	White star. Spectrum with dark lines about E, F, and G. Other faint dark lines suspected.
21	υ^5 Eridani	4 19 54	124 16	Spectrum with dark lines about C, F, and G.
22	α Argus	6 21 31	142 38	Spectrum with dark lines; two of these are about F and G prominent and thick. Suspected bright band in the yellow (?) Blue and violet occupy together one-half, and the yellow and red together only one-fifth part of the whole length of the spectrum; the rest being taken by the green and greenish blue.
23	α Carinæ	9 8 4	148 31	Continuous spectrum. Green colour in large proportion. Violet not seen.
24	υ Argus	9 44 21	154 34	Spectrum with one dark line in the middle of the green. Other faint dark lines suspected.
25	ω Argus	10 11 7	159 29·5	Continuous spectrum.
26	θ^1 Crucis	11 57 26	152 42	Continuous spectrum. Blue and green preponderate. Violet not seen.
27	θ^2 Crucis	11 58 40	152 33	Continuous spectrum. " " "
28	ζ Crucis	12 12 29	153 23	Continuous spectrum. " " "
29	ι Crucis	12 39 10	150 23	Continuous spectrum. " " "
30	κ Crucis	12 47 15	149 47	Continuous spectrum. " " "

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No.	Star's Name.	α 1890·0. h m s	N.P.D. 1890·0. ° ′	Description of Spectra and other Remarks.
31	Stone 7112	12 48 8	146 35	Continuous spectrum. Blue and green preponderate. Violet not seen.
32	Stone 7113	12 48 9	146 34	Continuous spectrum. ,, ,, ,,
33	Stone 7119	12 49 29	146 14	Continuous spectrum. ,, ,, ,,
34	Stone 7208	13 0 37	149 16	Continuous spectrum. ,, ,, ,,
35	Stone 7238	13 5 26	149 20	Continuous spectrum. ,, ,, ,,
36	Stone 7244	13 6 3	149 14	Continuous spectrum. ,, ,, ,,
37	Stone 7253	13 7 27	148 31	Continuous spectrum. ,, ,, ,,
38	β Centauri	13 56 3	149 50	Yellowish star. Spectrum with dark lines. One extremely faint about C, only seen at the edges of the spectrum; one in the yellow about D as faint; one about G quite distinct and well defined, not thick; two far in the violet, uncertain; three extremely faint and diffused in the greenish blue. Yellow and green in large proportion.
39	ι Virginis	14 10 15	95 28	White star. Spectrum with dark lines suspected about C, F, and G. Bluish tint extending over green and yellow; violet hardly seen.
40	λ Virginis	14 13 9	102 52	Spectrum with dark lines about C, F, and G; F very thick and prominent; G faint and difficult; C only suspected. Bluish tint extending over a great portion of the spectrum; violet colour hardly seen.
41	μ Virginis	14 37 16	95 11	White star. Spectrum with a dark line about F suspected. Bluish tint extending over a great portion of the spectrum.
42	α Libræ	14 44 48	105 35	White star. Spectrum with dark lines about C, F, and G; the two last very thick and prominent. C only visible at the edges of the spectrum. Bluish tint pervades.
43	β Lupi	14 51 20	132 41	Continuous spectrum.
44	δ Libræ	14 55 6	98 5	Yellowish star. Spectrum with extremely fine dark lines suspected.
45	β Libræ	15 11 5	98 59	White star. Spectrum with dark lines about C, F, and G, and one far in the violet. Several extremely fine dark lines in the bluish green suspected.
46	2 Lupi	15 11 8	119 45	Yellowish star. Continuous spectrum.

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No.	Star's Name.	α 1890·0.			N.P.D. 1890·0.		Description of Spectra and other Remarks.
		h	m	s	°	′	
47	ζ Libræ	15	22	3	106	20	Yellowish star. Continuous spectrum.
48	37 Libræ	15	28	8	99	41	White star. Spectrum very faint; the four hydrogen lines suspected. Bluish tint pervades the spectrum.
49	γ Libræ	15	29	22	104	25	White star tending to yellowish. Spectrum with faint dark lines suspected. Blue predominates; yellow and violet not seen.
50	η Libræ	15	37	53	105	19	White star. Continuous spectrum. Blue predominates; violet not seen.
51	μ Serpentis	15	43	53	93	6	White star. Spectrum with a dark line about F. Bluish tint pervades the spectrum.
52	β Trianguli	15	45	29	153	5	Spectrum with many faint dark lines; one dark line about F more prominent.
53	λ Libræ	15	46	57	109	50	White star. Continuous spectrum. Blue colour abounds; violet and yellow hardly seen.
54	θ Libræ	15	47	33	106	24	White yellowish star. Continuous spectrum. Blue tinge pervading the spectrum; violet and yellow not seen.
55	48 Libræ	15	52	2	103	58	White bluish star. Continuous spectrum. Bluish tint pervading the spectrum; violet not seen.
56	π Scorpii	15	52	12	115	48	Spectrum with very fine lines suspected. Violet abounds.
57	β Scorpii	15	59	2	109	30	Continuous spectrum.
58	ν Scorpii	16	5	36	109	10	White star. Continuous spectrum. Slight tinge of blue over green and yellow.
59	δ Ophiuchi	16	8	35	93	25	White yellowish star. Spectrum with extremely fine dark lines in the blue, and one about C.
60	ε Ophiuchi	16	12	30	94	25	Yellowish star. Spectrum with very fine faint lines difficult to see.
61	σ Scorpii	16	14	30	115	20	White star. Continuous spectrum. Violet colour in large proportion.
62	ψ Ophiuchi	16	17	40	109	47	Continuous spectrum. Red very intense.
63	χ Ophiuchi	16	20	39	108	12	Continuous spectrum. Red in large proportion.
64	Scorpii, B.A.C. 5508	16	24	12	124	28	White bluish star. Spectrum with dark lines about C, F, and G suspected. Bluish tinge extending over a great part of the spectrum.
65	23 τ Scorpii	16	29	2	117	59	Whitish star. Spectrum with very fine dark lines suspected. Bluish tinge pervading.

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No.	Star's Name.	α 1890·0.	N.P.D. 1890·0.	Description of Spectra and other Remarks.
		h m s	° ′	
66	Aræ B.A.C. 5554	16 33 18	150 42	Spectrum extremely faint—beyond reach of the instrument. Star 6½ mag.
67	η Ophiuchi	17 4 4	105 35	Spectrum with dark lines; one about C faint; one about G thick and prominent, and a similar one in the violet.
68	36 θ¹ Ophiuchi	17 8 35	116 26	Faint spectrum with many very fine and faint dark lines in the red and blue suspected.
69	ζ Apodis	17 10 30	157 39	Yellowish star. Continuous spectrum.
70	41 Ophiuchi	17 10 58	90 19	White star. Spectrum with dark lines about C, F, and G uncertain. Spectrum very faint. Violet colour not seen.
71	ξ Ophiuchi	17 14 24	111 0	Spectrum with dark lines about F and G. Others suspected. Blue colour predominates.
72	Stone 9445	17 14 57	114 48	Yellowish star. Spectrum with very fine dark lines suspected.
73	θ Ophiuchi	17 15 15	114 53	White bluish star. Spectrum with dark lines about C, F, G, and H; the last two very distinct; the others uncertain. Bluish tint over a great portion of the spectrum.
74	γ Aræ	17 16 8	146 16	Continuous spectrum. Blue and green occupy three-fourths of the total length.
75	45 Ophiuchi	17 20 21	119 46	White bluish star. Spectrum with dark lines about F and G. Blue preponderates.
76	υ Scorpii	17 23 17	127 12	Spectrum with several very faint dark lines suspected in the red and orange, and one near G.
77	α Aræ	17 23 21	139 47	White star. Continuous spectrum. Slight tinge of blue seems to extend over the green and yellow.
78	Stone 9585	17 28 58	128 33	Spectrum with three uncertain bands or groups of dark lines about E, F, and G.
79	ξ Serpentis	17 31 17	105 20	Spectrum with dark lines. A fine one about C; one broad and marked about G; one also broad, but not so marked, far in the violet.
80	ι Scorpii	17 39 54	130 5	Continuous spectrum. Yellow colour almost totally absent.
81	Scorpii, B.A.C. 6018	17 42 22	127 0	Yellowish star. Spectrum with many very faint dark lines difficult to see.
82	ν Ophiuchi	17 52 58	99 46	Yellowish star. Continuous spectrum.
83	π Pavonis	17 57 59	153 40	White star. Spectrum with dark lines about C, F, and G. The C line very difficult. F and G very thick and prominent.

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No.	Star's Name.	α 1890·0. h m s	N.P.D. 1890·0. ° ′	Description of Spectra and other Remarks.
84	θ Aræ	17 58 4	140 6	White star. Spectrum with fine dark lines suspected.
85	ε Telescopii	18 3 4	135 58	Yellowish star. Continuous spectrum.
86	μ Sagittarii	18 7 11	111 5	Whitish star. Spectrum with excessively fine dark lines very difficult to see.
87	η Serpentis	18 15 37	92 56	Yellowish star. Continuous spectrum.
88	α Telescopii	18 18 49	136 2	White star. Spectrum with dark lines about F and G faint; other lines suspected.
89	ζ Telescopii	18 20 21	139 8	Yellowish star. Continuous spectrum.
90	λ Sagittarii	18 21 11	115 29	Spectrum with extremely fine lines suspected.
91	ζ Pavonis	18 30 11	161 31	White yellowish star. Spectrum with very fine dark lines.
92	ζ Sagittarii	18 55 37	120 2	White bluish star. Spectrum with dark lines about C, F, G, and one in the violet. C difficult; F very thick and prominent.
93	ε Pavonis	19 47 51	163 12	White bluish star. Spectrum with dark lines about C, F, and G. C double line difficult; F very broad but not prominent. Faintly defined.
94	α Pavonis	20 16 56	147 5	Spectrum with dark bands and lines. Very thick dark band or group of dark lines far in the violet. Other similar band about G not so thick and rather indistinct. Dark band or group of dark lines about F. This is the best defined, but not conspicuous.
95	α Toucani	22 10 58	150 48	Spectrum with dark lines about F and G well seen; others uncertain. White star.
96	γ Aquarii	22 15 58	91 56	White bluish star. Spectrum with dark lines about C, F, and G, and other fainter ones suspected in the blue. Bluish tinge over spectrum.
97	55 ζ Aquarii	22 23 10	90 35	White bluish star. Spectrum with dark lines about F and G, and others suspected in the blue. F thick. Bluish tinge over spectrum.
98	δ² Gruis	22 23 11	134 19	Spectrum with flutings; two in the red very marked; a fainter one in the yellow; three very prominent in the blue. Several dark bands in the violet, and many fine dark lines all over. Flutings fade away towards the red end of the spectrum.
99	η Aquarii	22 29 42	90 41	White bluish star. Spectrum with dark lines about F and G; both thick. Several other faint dark lines in the green and blue.
100	λ Aquarii	22 46 52	98 10	Yellowish star. Spectrum with many dark lines in all colours, several of which are very prominent, like the solar spectrum.

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Spectroscopic Observations of the Motion of Stars in the Line of Sight made at the Temple Observatory, Rugby. By Geo. M. Seabroke.

The following observations are intended to be in continuation of similar ones communicated to the Society in the years 1879 and 1887; and in vol. xlvii. page 93 of the *Monthly Notices* will be found a description of the telescope and spectroscope used prior to the commencement of the present year.

Those observations recorded as made with two prisms are made with a new spectroscope constructed by me some months ago, and consisting of a collimator of 18 inches focal length and $1\frac{1}{2}$ inch in diameter, a similar lens in the observing telescope, and two prisms of an angle of 45°. The focal length of the eyepiece is about $\frac{1}{3}$ inch.

The measures were made by a pointer of tinfoil, set edgewise to the line of sight, alternately on the star line and line from the hydrogen tube or magnesium wire respectively, and recording the distance moved by the pointer by readings of the micrometer screw.

The pointer is illuminated by light reflected upon it from a small reflector close to the eye.

Owing to my want of practice with a pointer of this form, and certain wants of adjustment in illuminating the pointer equally at both edges, my early readings vary *inter se*, and the observations are therefore of little value; but of late the measures are much more accordant. By reducing the number of prisms in the new instrument as compared with the old one, the illumination of the spectrum is much increased, while the power of comparison is retained by increase of focal length and diameter of the collimator.

A marked excess of − motion over + is to be remarked; and although I can give no reason for any systematic error in the former direction, I feel that the observations hereafter recorded should be received with caution.

Number of Prisms.	Line Compared.	Number of Measures.	Cor. Motion in Miles per Second.	Date 1800+	Remarks.
			Andromedæ.		
5	F	4	+32·6	87·084	
5	F	3	−46·7	·928	
5	F	4	−29	·955	
5	F	3	−68·8	·958	
2	F	2	−56·2	88·972	
2	F	4	−30·5	89·825	
			γ Pegasi.		
5	F	4	−51·2	87·903	
5	F	3	−23·1	·955	